

Appl. No. 10/656,475
Amdt. Dated 17 June 2004
Reply to Office action of 18 May 2004

Amendments to th Specification:

Please replace the first sentence of the application with the following rewritten sentence:

This application is a division of application Serial No. 09/793,432, filed 2/27/01 and issued as US Patent 6,646,265 on 11 November 2003, which is a CIP of US Patent 6,239,434, issued 5/29/01.

Please replace the Abstract with the following rewritten Abstract:

~~A solid state optical spectrometer for combustion flame temperature determination comprises: a first photodiode device for obtaining a first photodiode signal, the first photodiode device comprising a silicon carbide photodiode and having a range of optical responsivity within an OH band; a second photodiode device for obtaining a second photodiode signal, the second photodiode device comprising a silicon carbide photodiode and a filter, the second photodiode device having a range of optical responsivity in a different and overlapping portion of the OH band than the first photodiode device; and a computer for obtaining a ratio using the first and second photodiode signals and using the ratio to determine the combustion flame temperature.~~ A photodiode device includes a silicon carbide photodiode including a second semiconductor layer on a first semiconductor layer and an integral aluminum gallium nitride filter on the second semiconductor layer. A method for fabricating a photodiode device for combustion flame temperature determination includes fabricating an integral filter over a silicon carbide photodiode. Examples of various filter fabrication techniques include growing an aluminum gallium nitride filter, fabricating a silicon oxynitride filter, and alternating thin film layers of silicon oxide and silicon nitride.